

PATENT ABSTRACTS OF JAPAN

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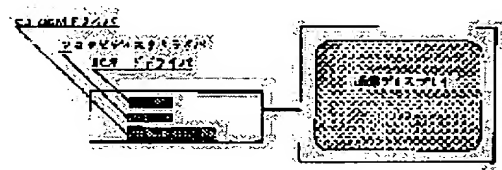
(21)Application number : 04-083643 (71)Applicant : HITACHI LTD
(22)Date of filing : 06.04.1992 (72)Inventor : ABE KATSUHIKO
KADOMA JUNYA

(54) AUTOMATIC EDIT RECORDING AND REPRODUCING DEVICE FOR ELECTRONIC RECORDING MEDIUM

(57)Abstract:

PURPOSE: To simplify the configuration of the device and to reduce editing works by undertaking recording work on the same or on a dedicated medium and edition work and undertaking all or part of reproduction works intended by an operator and selective reproduction work of required information by a device.

CONSTITUTION: When recording images, characters, and voices on recording medium such as optical magnetic disks, the data on the photographing time and recording conditions are recorded on the same or special medium. The data are used at the time of reproduction, the specified algorithm takes the place of editing work. Reproduction is performed by the content intended by an operator. In reproducing with dissimilar order and organization from recording time, the only edit information is recorded. At the time of reproduction, required information is selected and reproduced from the original information by means of the edit information. After the editing work, the only edit information increases. A little amount of information improves re-edit efficiency remarkably.



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CLAIMS

[Claim(s)]

[Claim 1] When recording an image, an alphabetic character, and voice on electronic recording media, such as a magneto-optic disk, CD-ROM, and a magnetic tape in addition to an image, an alphabetic character, and audio body data, by recording the data about the photography time of day and the record conditions of body data on the same medium or the medium according to dedication Automatic-formatting record and the regenerative apparatus of the electronic recording medium characterized by using the data about record time of day and record conditions at the time of playback of an image, an alphabetic character, and voice, executing an editing task by proxy according to the algorithm specified beforehand, and reproducing from the content of edit near an intention of an operator.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention is applied to different sequence from the data at the time of record, and the equipment reproduced by organization about record and the regenerative apparatus of an image, an alphabetic character, and an audio electronic recording medium, and relates to an effective technique.

[0002]

[Description of the Prior Art] When performing playback of an image, an alphabetic character, and voice by the sequence and organization which are different from the data at the time of record from an electronic recording medium, playback is performed by one of the following approaches.

[0003] ** An operator carries out rapid traverse and rewinding actuation to real time.

[0004] ** Reproduce the electronic recording medium after edit with edit equipment.

[0005] ** Create edit information with a help using a personal computer etc., and control a regenerative apparatus according to edit information.

[0006] For this reason, when performing playback of an image, an alphabetic character, and voice in the sequence and the combination as an intention of an operator, miscellaneous equipment and editing tasks, such as edit equipment and a personal computer, take much time amount. Moreover, in the case of the present most general method of **, the amount of data increases and the cost of management or preservation increases.

[0007]

[Problem(s) to be Solved by the Invention] This invention is to solve that miscellaneous equipment and editing tasks, such as edit equipment and a personal computer, take much time amount, when performing playback of an image, an alphabetic character, and voice in the sequence and the combination as an intention of an operator. That is, when reproducing an image, an alphabetic character, and voice to electronic recording media, such as a magneto-optic disk, CD-ROM, and a magnetic tape, the data about photography time of day and record conditions are used, an editing task is executed by proxy according to the algorithm specified beforehand, and it is in performing simplification of an equipment configuration, and sharp reduction of an editing task by reproducing from the content near an intention of an operator.

[0008]

[Means for Solving the Problem] By this invention, three sorts of means are added for the aforementioned technical-problem solution.

[0009] (1) When recording an image, an alphabetic character, and voice on electronic recording media, such as a magneto-optic disk, CD-ROM, and a magnetic tape, in addition to an image, an alphabetic character, and audio body data, record the data about the photography time of day and the record conditions of body data on the same medium or the medium according to dedication.

[0010] (2) Use the data about photography time of day and record conditions at the time of playback of an image, an alphabetic character, and voice, execute an editing task by proxy according to the algorithm specified beforehand, and reproduce from the content near an intention of an operator.

[0011] (3) When reproducing by the different sequence and the organization from the data at the time of record about record and the regenerative apparatus of an image, an alphabetic character, and an audio electronic recording medium, record only the information about edit of the arrangement on a reproductive procedure, a bond, combination, and a screen etc. At the time of playback, according to this edit information, and it is the image of an original copy, and an alphabetic character, it reproduces by choosing required information from speech information.

[0012] This invention performs simplification of an equipment configuration, and sharp reduction of an editing task by making equipment execute three sorts of above-mentioned activities [all or a part of] by proxy.

[0013]

[Function] An operator's editing task becomes nothing reproducible [the image edited from the content near an intention of an operator, an alphabetic character, and voice] by reproducing the image, the alphabetic character, and voice which were recorded with the electronic recording medium recording device which applied the means mentioned above with an electronic recording medium automatic-formatting regenerative apparatus. Moreover, after an editing task, since the information which newly increases is only edit information, its effectiveness of a reorganization collection also improves [amount of information] by leaps and bounds few.

[0014]

[Example] Hereafter, the case where the example of this invention is applied to the electronic album using a photograph CD-ROM regenerative apparatus is used for an example, and is explained. Here, it considers as the equipment which displays the image information recorded on photograph CD-ROM in the electronic album per a group unit or individual photograph like a common photo album on CRT or a liquid crystal display. An operator admires the image on a display by automatic and the manual.

[0015] The example of an equipment configuration of an electronic album is shown in drawing 1 . Equipment consists of a CD-ROM driver, a floppy disk driver, an IC card driver, and a display.

[0016] Drawing 2 shows the example of a configuration of the display screen of the electronic album developed on a display using photograph CD-ROM. An electronic album consists of a table of contents, an album page, a unit and a 1 piece photograph, and a control page for reorganization collections.

[0017] Drawing 3 shows the example of a configuration of a photography instrument. A camera with a photography condition record function performs photography, and photography conditions are optically recorded on a film by electronic memory or bar codes, such as an IC card, etc. Photography conditions point out the data which the distance of photography time of day (1 / 100-second precision is desirable), light exposure, the external quantity of light, a lens, a focal distance, composition in every direction, and a focus, the stroboscope quantity of light, and a camera process electronically at the time of photography, and the

information which the photography person inputted.

[0018] Drawing 4 shows the method of creating photograph CD-ROM. Photograph CD-ROM may attach photography condition record of ** IC card etc., and may add photography condition data to photograph CD-ROM, or, in addition to content photograph CD-ROM of ** bar code, may CD-ROM-ize only ** photo intelligence.

[0019] Drawing 5 shows the example of a table of contents of an electronic album. A table of contents is 1 page which surveys all the photographs included in the photo CD of one sheet, and consists of albums to which the configuration of an album page is indicated to be the original copy photo library located in a line with photography ****.

[0020] Drawing 6 shows the album page and the example of a unit of an electronic album. An album page makes one group at the time of classifying according to a photography scene the page 1 of an album. Here, let what was photoed in principle on the same day be the same album page. Since three sheets to six photographs are considered as a layout in one display screen, the page 1 of an album may display two or more album page as one screen in one display screen, also when it does not restrict but constitutes a page from two or more screens. A unit uses as one unit the photograph with which a strip photograph (what has short spacing of photography), or composition is similar, and treats it like one photograph on an album page.

[0021] Drawing 7 shows the example of a creation procedure of an electronic album. Automatic formatting after photograph CD-ROM SETTING is performed, and protore RUBAMU completes an electronic album. According to the activity of unsuitable choice of a photograph, unsuitable modification of a group, etc., a criterion and the album according to application are completed by automatic formatting. There are little criterion after protore RUBAMU creation and rating of the album creation classified by application, and since it becomes a pleasant activity, a feeling of a burden is also mitigable.

[0022] Drawing 8 shows the example of a data configuration required at the time of playback of an electronic album. An electronic album reads image data from CD-ROM, and album edit information writes in a floppy disk or an IC card, and is read at the time of playback.

[0023] Drawing 9 shows the example of an edit algorithm of an electronic album.

[0024] Drawing 10 shows the example of deletion of the failure work in the edit flow of an electronic album. Deletion is deleted when the quantity of light and light exposure of a photographic subject differ from each other remarkably.

[0025] Drawing 11 shows the example of unitization of the individual photograph in the edit flow of an electronic album. The photograph with which a strip photograph (what has short spacing of photography), or composition is similar is used as one unit, and is treated like one photograph on an album page. Also let an independent photograph be one unit.

[0026] Drawing 12 shows the example of grouping of the unit in the edit flow of an electronic album. Grouping is considered as the set of the unit of three to six which can be arranged to the 1 display screen at the time of classifying according to a photography scene sheets.

[0027] Drawing 13 shows 1 display-screen sample layout in the edit flow of an electronic album. A screen layout is standardized in one group's number of units, and the location of composition in every direction.

[0028] as mentioned above, although the fundamental concept of electronic recording medium automatic formatting record and a regenerative apparatus explained taking the case of an electronic album, the data about the photography time of day and the record conditions which can apply this invention to the image through online media, an alphabetic character, and all audio record regenerative apparatus, and use for edit information creation include all the parameters in which the inclusion to the information and the edit algorithm which extracted not only from the parameter took up by this example but from an image, an alphabetic character, and voice be possible.

[0029]

[Effect of the Invention] When reproducing by the different sequence and the organization from the data at the time of record about record and the regenerative apparatus of an image and the electronic recording medium of an alphabetic character and voice, it becomes reproducible [the image edited without an operator's editing task from the content near an intention, an alphabetic character, and voice], and the simplification and the editing task of an equipment configuration can decrease substantially. Moreover, at the time of playback, since it reproduces by choosing required information from speech information according to edit information and it is the image of an original copy, and an alphabetic character, while being able to prevent the increment in the amount of data in the case of editing more than one, data control is simplified and working efficiency improves.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

- [Drawing 1] It is drawing showing the example of an equipment configuration of an electronic album.
 - [Drawing 2] It is drawing showing the example of a screen configuration of an electronic album.
 - [Drawing 3] It is drawing showing the example of a configuration of a photography instrument.
 - [Drawing 4] It is drawing showing the method of creating photograph CD-ROM.
 - [Drawing 5] It is drawing showing the example of a table-of-contents configuration of an electronic album.
 - [Drawing 6] It is drawing showing the album page of an electronic album, and the example of a unit configuration.
 - [Drawing 7] It is drawing showing the example of a creation procedure of an electronic album.
 - [Drawing 8] It is drawing showing the example of a data configuration required at the time of playback of an electronic album.
 - [Drawing 9] It is drawing showing the example of an edit algorithm of an electronic album.
 - [Drawing 10] It is drawing showing the example of deletion of the failure work in the edit flow of an electronic album.
 - [Drawing 11] It is drawing showing the example of unitization of the individual photograph in the edit flow of an electronic album.
 - [Drawing 12] It is drawing showing the example of grouping of the unit in the edit flow of an electronic album.
 - [Drawing 13] It is drawing showing the example of a screen layout in the edit flow of an electronic album.
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[Translation done.]

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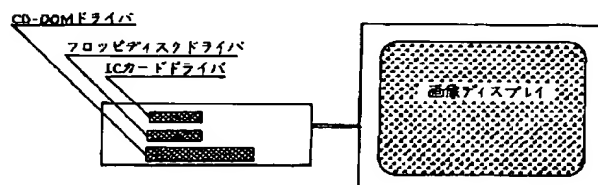
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DRAWINGS

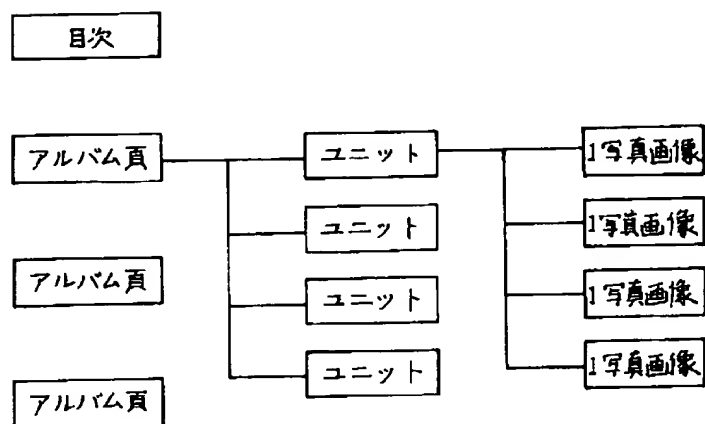
[Drawing 1]

図 1



[Drawing 2]

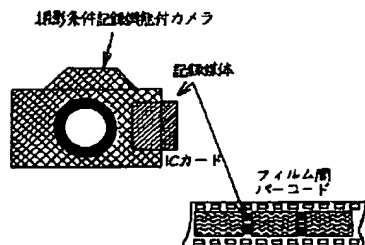
図 2



コントロール頁

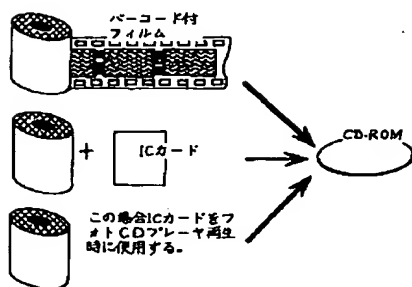
[Drawing 3]

図 3



[Drawing 4]

図 4



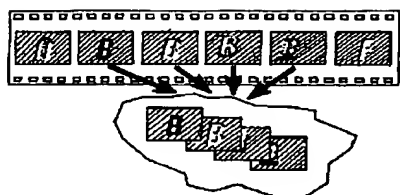
[Drawing 10]

図 10



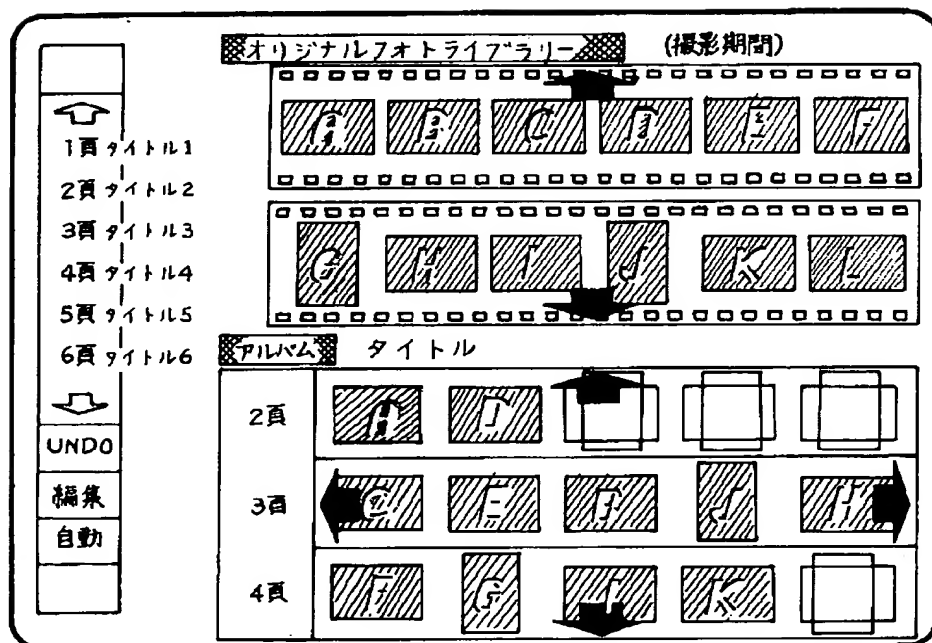
[Drawing 11]

図 11

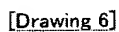


[Drawing 5]

図 5



[Drawing 7]



☒ 6

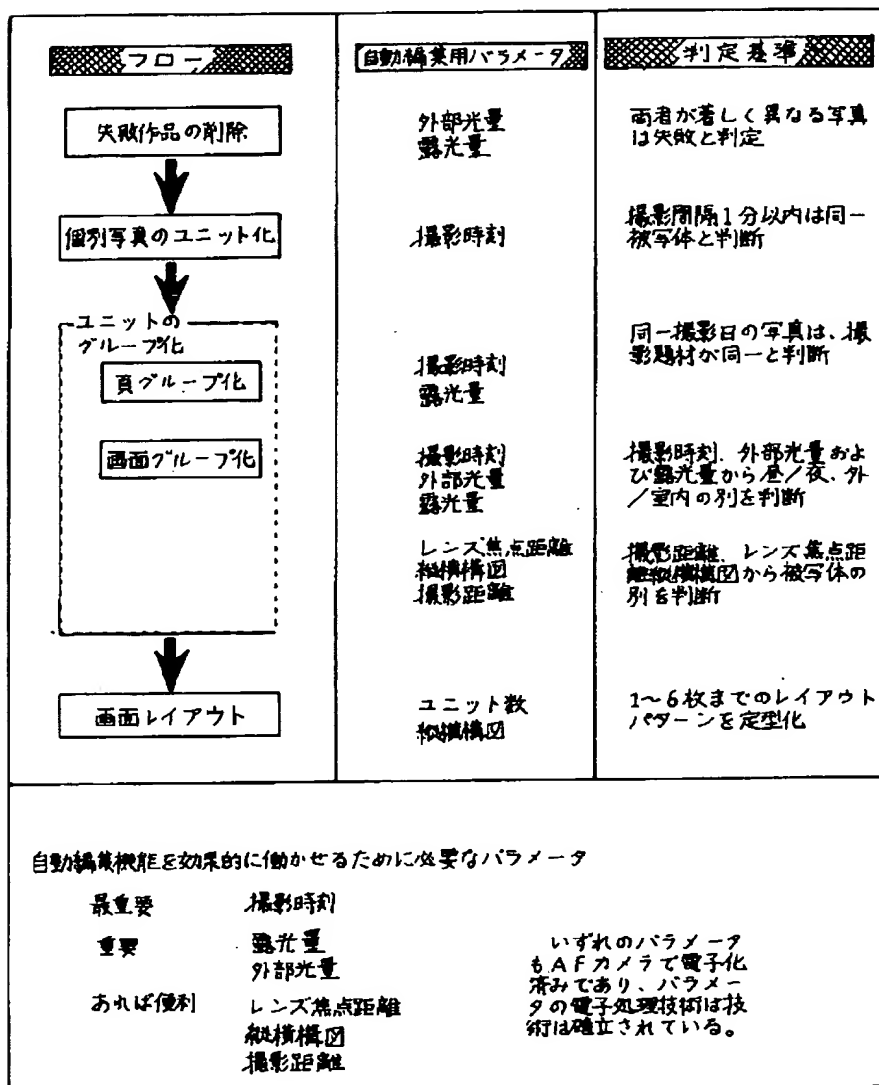


図 8

分類	構成例1	構成例2
写真画像データ	CD-ROM	CD-ROM
撮影条件	CD-ROM	ICカード
アルバム編集情報	FDD	ICカード

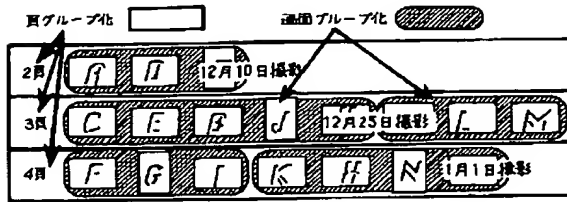
[Drawing 9]

図 9



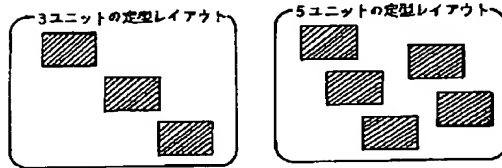
[Drawing 12]

図 12



[Drawing 13]

図 13



[Translation done.]

影が入力した情報を指す。

【0018】図4は、フォトCD-ROMの作成法を示す。フォトCD-ROMは、①ICカード等の撮影条件記録を添付したフォトCD-ROMに撮影条件データを加えるか、②バーコードの内容をフォトCD-ROMに加えるか、または、③写真情報のみCD-ROM化してもよい。

【0019】図5は、電子アルバムの日次例を示す。目次は1枚のフォトCDに含まれる写真の全てを収録する1頁であり、撮影順に並んだオリジナルライブラリーと、アルバム頁の構成を示すアルバムで構成される。

【0020】図6は、電子アルバムのアルバム頁とユニット例を示す。アルバム頁は、撮影シーン別に分類した場合の、1グループをアルバム1頁とする。ここでは、原則として同一日に撮影したものを同一アルバム頁とする。1表示画面には3枚から6枚の写真をレイアウトする。1表示画面で複数アルバム頁を構成する場合は、1表示画面で複数アルバム頁を表示することもある。ユニットは、連続写真（撮影の間隔が短いもの）または構図が類似している写真、ユニットとし、アルバム頁上では写真1枚と同様に扱う。

【0021】図7は、電子アルバムの作成手順例を示す。電子アルバムはフォトCD-ROMセグメント後自動編集が行われフォトアルバムが完成する。自動編集で不適切な写真の削除選択やグループの変更等の作業により、構図および用途別アルバムが完成する。プロットアルバム作成後の構図および用途別アルバム作成の作業量は少なく、楽しい作業となるため負担感も軽減できる。

【0022】図8は、電子アルバムの再生時に必要なデータ構成例を示す。電子アルバムは画像データは、CD-ROMから読みだしアルバム編集情報はフロッピーディスクまたはICカードに書き込みを行い、再生時に読み出す。

【0023】図9は、電子アルバムの編集アルゴリズム例を示す。

【0024】図10は、電子アルバムの編集フロー中の失敗作品の削除例を示す。削除は被写体の光量と露光量が著しく異なる場合削除する。

【0025】図11は、電子アルバムの編集フロー中の個別写真のユニット化例を示す。連続写真（撮影の間隔が短いもの）または構図が類似している写真を、ユニットとしアルバム頁上では写真1枚と同様に扱う。連続写真も1ユニットとする。

【0026】図12は、電子アルバムの編集フロー中のユニットのグループ化例を示す。グループ化は、撮影シ

ーン別に分類した場合の、1表示画面にレイアウトできる3から6枚のユニットの集合とする。

【0027】図13は、電子アルバムの編集フロー中の1表示画面レイアウト例を示す。画面レイアウトは1グループのユニット数と縦横構図の位置とで定量化する。

【0028】以上、電子記録媒体自動編集記録・再生装置の基本的な概念を電子アルバムを例にとり説明したが、本発明は、電子メディアを媒体とした画像、文字および音声の記録再生装置すべてに適用でき編集情報作成に使用する撮影時刻および記録条件に関するデータは、本例で取り上げたパラメータに限らず画像、文字および音声から抽出した情報や編集アルゴリズムに拡張可能なあらゆるパラメータを含む。

【0029】

【発明の効果】画像、文字および音声の電子記録媒体の記録・再生装置に関し、記録時のデータと異なった順序、編集で再生する場合、操作者の編集作業として意図に近い内容で編集された画像、文字および音声の再生が可能となり、装置構成の簡素化と編集作業が大幅に低減できる。また再生時には、編集情報にしたがって、オリジナルの画像、文字および音声情報から必要な情報を選択して再生を行うため、複数編集する場合のデータ量の増加が防止できるとともに、データ管理が簡素化され作業効率が向上する。

【図面の簡単な説明】

【図1】電子アルバムの装置構成例を示す図である。

【図2】電子アルバムの画面構成例を示す図である。

【図3】撮影道具の構成例を示す図である。

【図4】フォトCD-ROMの作成法を示す図である。

【図5】電子アルバムの目次構成例を示す図である。

【図6】電子アルバムのアルバム頁、ユニット構成例を示す図である。

【図7】電子アルバムの作成手順例を示す図である。

【図8】電子アルバムの再生時に必要なデータ構成例を示す図である。

【図9】電子アルバムの編集アルゴリズム例を示す図である。

【図10】電子アルバムの編集フロー中の失敗作品の削除例を示す図である。

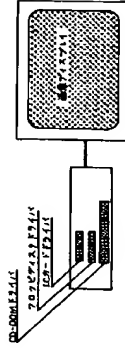
【図11】電子アルバムの編集フロー中の個別写真のユニット化例を示す図である。

【図12】電子アルバムの編集フロー中のユニットのグループ化例を示す図である。

【図13】電子アルバムの編集フロー中の画面レイアウト例を示す図である。

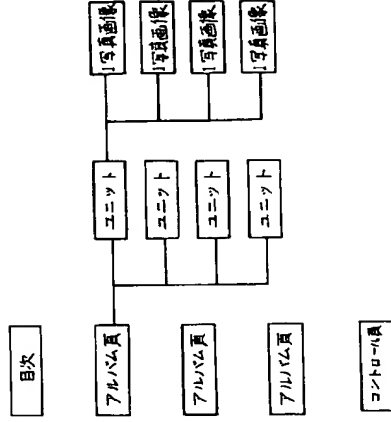
【図1】

図1



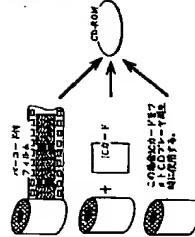
【図2】

図2



【図3】

図3



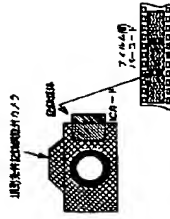
【図4】

図4



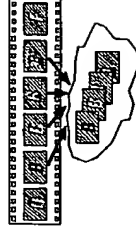
【図5】

図5



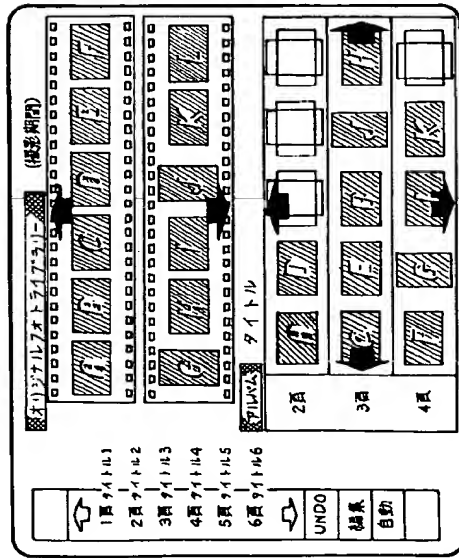
【図11】

図11



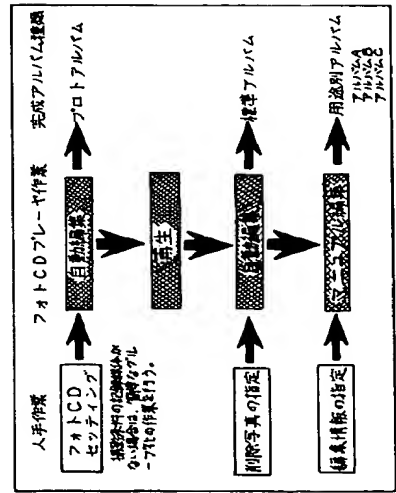
【図5】

図 5



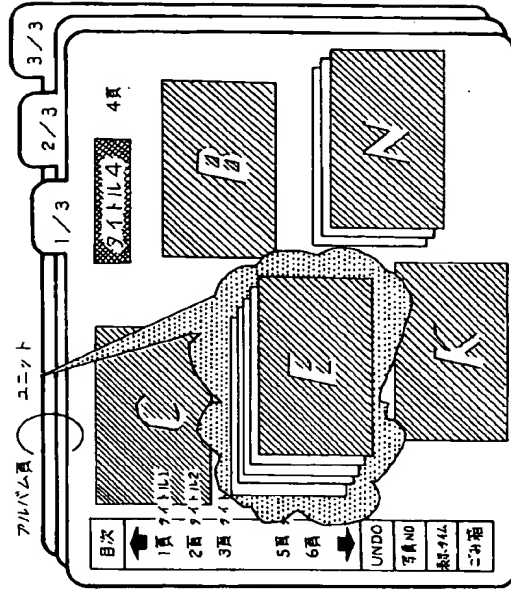
【図7】

図 7



【図6】

図 6



【図8】

図 8

分類	構成例1	構成例2
写真画像データ	CD-ROM	CD-ROM
撮影条件	CD-ROM	ICカード
アルバム編集情報	ICカード	ICカード

